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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/698,154

10/31/2003

Brian A. Leete

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02/13/2006

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EXAMINER

CASIANO, ANGEL L

ART UNIT

PAPER NUMBER

2182

DATE MAILED: 02/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/698,154	Applicant(s) LEETE, BRIAN A.	
	Examiner Angel L. Casiano	Art Unit 2182	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 October 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 October 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>10/15/04</u> <i>acc</i> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

- The present Office action is in response to application dated 31 October 2003.
- Claims 1-18 are pending. All claims have been examined.

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description:

- a. Figure 4, "431"
- b. Figure 5, "500", "570"
- c. Figure 6, "600", "630", "670"

Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the

Art Unit: 2182

applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Art Unit: 2182

4. Claims 1, 3, 6-8, 10, 12-14, 16, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Parthasarathy et al.** [US 2002/0191599 A1] in view of **Wheeler et al.** [US 5,968,153].

Regarding claim 1, Parthasarathy et al. teaches an apparatus including a host controller (see Figure 4A, 204); and a host controller driver (see Page 6, 0056). The reference also teaches a plurality of queues (see Page 6, 0056) as well as descriptor management (see Page 9, 0078; Figure 7). However, the reference fails to teach a plurality of qTDs (queue element transfer descriptors) created for a plurality of buffers posted, where these are circularly linked. As for these limitations, Wheeler et al. teaches a circular linked list associated with a plurality of buffers and a descriptor array (see col. 12, lines 4-10). At the time of the invention, one of ordinary skill in the art would have been motivated to combine the cited disclosures in order to obtain an apparatus having a linked list associated with each different type of data used by a co-processor, as taught by Wheeler et al. (see col. 12, line 5).

As for claim 3, Wheeler et al. teaches a plurality of buffers (see col. 12, line 5; Figure 10, "401"). The reference associates a particular buffer (see "pointers to each of the

Art Unit: 2182

data buffers 401"). At the time of the invention, one of ordinary skill in the art would have been motivated to combine the cited disclosures for the reasons stated above.

As for claim 6, Wheeler et al. teaches the next pointer in the bank pointing to a next in the first bank, a last in the first bank points to a first in the first bank (see "circular linked list 402" in Figure 10). At the time of the invention, one of ordinary skill in the art would have been motivated to combine the cited disclosures for the reasons stated above.

Regarding independent claim 7, this contains similar limitations as in claim 1, regarding the claimed apparatus. The combination of references teaches the limitations corresponding to the apparatus in claim 1 and therefore, also the apparatus in claim 7. The present claim is rejected under the same rationale.

As for dependent claims 8, 10, and 12, these contain similar limitations as in claims 1, 3, and 6, regarding the claimed apparatus. The combination of references teaches the limitations corresponding to the apparatus in those claims and

therefore, also the apparatus the present claims. The present claims are rejected under the same rationale.

Regarding independent claim 13, this contains similar limitations as in claim 1, but directed to the system for the apparatus. The combination of references teaches the limitations corresponding to the apparatus in claim 1 and therefore, also the system in claim 13. The present claim is rejected under the same rationale.

As for dependent claims 14, 16, and 18, these contain similar limitations as in claims 1, 3, and 6, regarding the claimed apparatus. The combination of references teaches the limitations corresponding to the apparatus and therefore, also the system directed to the apparatus. The present claims are rejected under the same rationale.

5. Claims 2, 9, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Parthasarathy et al.** [US 2002/0191599 A1] in view of **Wheeler et al.** [US 5,968,153] in further view of **Chang et al.** [US 6,775,733 B2].

As for claim 2, the combination of references does not teach the host controller as an enhanced host controller interface (EHCI) host controller. As for this limitation, Chang et al. teaches a host controller as an enhanced host controller interface (EHCI) host controller (see col. 3, lines 43-44). At the time of the invention, one of ordinary skill in the art would have been motivated to modify the cited combination in order to implement a universal media interface, as taught by Chang et al. (col. 1, lines 10-11).

As for dependent claims 9, this contains similar limitations as in claims 2, regarding the claimed apparatus. The present claim is rejected under the same rationale.

As for dependent claims 15, this contains similar limitations as in claims 2, but directed to the system. The present claim is rejected under the same rationale.

6. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Parthasarathy et al.** [US 2002/0191599 A1] in view of **Wheeler et al.** [US 5,968,153] in further view of **Ashburn et al.** [US 6,337,690 B1].

As for claim 4, the combination of references does not teach the plurality of buffers ordered in an incremented order. As for this limitation, Ashburn teaches organizing (ordering) buffers in increments (see col. 4, lines 13-14). At the time of the invention, one of ordinary skill in the art would have been motivated to modify the cited combination in order to implement a "common way of organizing" while also reducing time spent in processing frame buffers (see col. 1, lines 7-8 and col. 4, line 13).

7. Claims 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Parthasarathy et al.** [US 2002/0191599 A1] in view of **Wheeler et al.** [US 5,968,153] in further view of **Ashburn et al.** [US 6,337,690 B1] in further view of **Gibson et al.** [US 5,488,717].

As for claim 5, the combination of references (Parthasarathy et al. in view of Wheeler et al., in further view of Ashburn et al.) does not teach a second buffer executed upon an occurrence of a short packet in a first qTD associated with a first buffer, the first qTD having an alternate next pointer pointing to a first qTD of the second buffer. As for this limitation, Gibson et al. teaches a method for storing data in

memory. The reference also teaches storing data in a node that has a next pointer and an alternate pointer (see Abstract). At the time of the invention, one of ordinary skill in the art would have been motivated to modify the combination of references in order to obtain a method with rapid access of elements of data units by allocation to nodes, as taught by Gibson et al. (see col. 1, lines 28-31). Furthermore, according to Gibson et al. the nodes are interrelated by a particular distribution of pointers (see col. 1, lines 40-42).

8. Claims 11 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Parthasarathy et al.** [US 2002/0191599 A1] in view of **Wheeler et al.** [US 5,968,153] in further view of **Gibson et al.** [US 5,488,717].

As for claim 11, the combination of references (Parthasarathy et al. in view of Wheeler et al.) does not teach a second buffer executed upon an occurrence of a short packet in a first qTD associated with a first buffer, the first qTD having an alternate next pointer pointing to a first qTD of the second buffer. As for this limitation, Gibson et al. teaches a method for storing data in memory. The reference also teaches storing data in a node that has a next pointer and an alternate pointer

(see Abstract). At the time of the invention, one of ordinary skill in the art would have been motivated to modify the combination of references in order to obtain a method with rapid access of elements of data units by allocation to nodes, as taught by Gibson et al. (see col. 1, lines 28-31). Furthermore, according to Gibson et al. the nodes are interrelated by a particular distribution of pointers (see col. 1, lines 40-42).

As for dependent system claim 17, this contains similar limitations as in claims 11, regarding the claimed apparatus. The present claim is rejected under the same rationale.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Angel L. Casiano whose telephone number is 571-272-4142. The examiner can normally be reached on 9:00-5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Huynh can be reached on 571-272-4147. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2182

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Alc

30 January 2006



KIM HUYNH
SUPERVISORY PATENT EXAMINER

2/6/06